Trinity Alps Wilderness Prescribed Fire Project

Recreation, Scenery and Wilderness Resources Report

Prepared by:

Christine West
Recreation Specialist
Vegetation Management Solutions

Janice Sorochtey
Shasta-Trinity National Forest Westside Recreation Officer

Stephanie Joyce
Shasta-Trinity National Forest Landscape Architect

Daniel Cressy
Lake Tahoe Basin Management Unit Landscape Architect, Recreation Planner

Reviewed by: _____ Date:_____
Sally Cousins
Recreation Staff Officer,
Trinity River Management Unit Shasta-Trinity National Forest

Reviewed by: _____ Date:_____
Zanard Choice
Forest Landscape Architect, Shasta-Trinity National Forest

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Introduction

This report analyzes the effects of the proposed Trinity Alps Wilderness Prescribed Fire Project on recreation, scenery and wilderness values within and adjacent to the project area. Preservation of wilderness character to meet recreation and scenic values, along with ecological restoration and nearby Wildland Urban Interface protection are overarching goals of management within the project area. The findings of this report are summarized in Chapter 3 of the Environmental Assessment (EA). Additional information can be found in the project Minimum Requirements Decision Guide (Appendix D of the EA).

Project Location

The Trinity Alps Wilderness Prescribed Fire Project is located in the Shasta-Trinity National Forest, Trinity River Management Unit in Trinity, Siskiyou, and Humboldt Counties, California. The project area encompasses the Upper New River, Eagle Creek, and Sixmile Creek 6th field watersheds comprising 58,349 acres or 11 percent of the Trinity Alps Wilderness. The proposed treatments, however, would occur in only three-to-four percent of the Wilderness area (see below). The project area consists primarily of federal lands with minor amounts of private inholdings.

The legal description of the project area is as follows:

- Humboldt Meridian
  - T70N R70E Sections 1 through 24
  - T70N R80E Sections 6 and 7
  - T80N R60E Sections 1, 11, 12, 13, 14, 23 and 24
  - T80N R70E Sections 1 through 36
  - T80N R80E Sections 4, through 9, 16 through 21, and 28 through 32
  - T90N R60E Sections 24 and 25
  - T90N R70E Sections 17 through 36
  - T90N R80E Sections 29, 30, 31, and 32
- Mount Diablo Meridian
  - T370N R120W Sections 6, 7, 8, 17, 18, 19, 20, 29 and 30
  - T380N R120W Section 31.

Elevations in the project area range from about 1500 feet to 6700 feet.

Action Alternatives

The proposed action under Alternative 2 would implement prescribed fire on approximately 16,709 treatment acres within the project area. Ignition would be by helicopter and hand crews. Alternative 3 would treat an additional 2,379 acres in the Virgin Creek drainage. See Chapter 2 of the EA for detailed descriptions and maps of Alternative 2 and Alternative 3.

Regulatory Framework

Policy, Laws, and Direction

The following current laws, policy, and direction apply to the recreation, scenic and wilderness resources for the Trinity Alps Wilderness Prescribed Fire Project:

- Forest Service Manual 2300 (Recreation, Wilderness, and Related Resource Management)
- California Wilderness Act of 1984 (Public Law 98-425 [98 Stat. 1624])
- Northwest Forest Plan Record of Decision (April 13, 1994)
- Wilderness Act of 1964 (Public Law 88-577 [16 U.S. C. 1131-1136])
- Clean Air Act of 1977 (Public Law 91-604 [42 U.S. C. 7401-7626])
- National Trail System Act of 1968 (Public Law 90-543, as amended through P.L. 111-11, March 30, 2009)
- National Environmental Policy Act of 1969 (Public Law 94-52 [42 U.S. C. 4321-4347])
- National Wildfire Coordinating Group (NWCG) Guidance on Minimum Impact Suppression Tactics (MIST) (June 6, 2003)
- Agriculture Handbook 462 – National Forest Landscape Management Volume 2 (1974)
- Agriculture Handbook 701 – Landscape Aesthetics – A Handbook for Scenery Management (1995)
- Shasta-Trinity National Forest Land and Resource Management Plan (LRMP) and Record of Decision (April 28, 1995)

Forest Service Manual 2300 (Recreation, Wilderness and Related Resource Management)

Forest Service Manual (FSM) 2380.62[1] directs that

- Agriculture Handbook (AH) 462 has been superseded by AH 701, "Landscape Aesthetics, A Handbook for Scenery Management." Nevertheless, consult the superseded AH 462 for background information useful in understanding Forest land and resource management plans and other resource planning activities which utilized the Visual Management System in place prior to publication of AH 701.

FSM 2382.3[2] directs the Forest Service to

- Update the scenery inventory using the Scenery Management System in Agriculture Handbook 701 (FSM 2380.61, para. 2). The recommended timeframe for updating the scenery inventory is prior to or at initiation of Forest land and resource management plan revisions.

Forest Plan Direction

The following specific direction found in the LRMP applies to the Trinity Alps Wilderness Prescribed Fire project.

[1] USDA Forest Service 2003
[2] Ibid.

Forest Goals

Recreation

- Manage the Shasta-Trinity National Forests land base and resources to provide a variety of high quality outdoor recreation experiences.[3]

Visuals

- Maintain a diversity of scenic quality throughout the Forests, particularly along major travel corridors, in popular dispersed recreation areas, and in highly developed areas.[4]

Wilderness

- Manage Wildernesses to meet recreational, scenic, educational, conservation, and historic uses while preserving wilderness values.[5]

Standards and Guidelines

Air Quality

- Incorporate smoke management controls into the development of prescribed burn plans, and coordinate with local authorities.[6]

Recreation

- Manage developed recreation sites according to the Recreation Opportunity Spectrum (ROS) classes…[7]
- Management activities [in wilderness] should be compatible with Primitive Recreation Opportunity Spectrum (ROS) guidelines unless otherwise specified in approved Wilderness Management Plans.[8]
- Continue to improve access to rivers, streams, and lakes for water-oriented recreation activities consistent with the Aquatic Conservation Strategy. Continue to provide access to hunting, fishing, and wildlife viewing areas.[9]

Visual Quality

- Manage activities and projects to meet adopted Visual Quality Objectives (VQOs) [10]. On rare occasions the adopted VQO may not meet management's objectives (i.e. catastrophic events).[11]
- Wilderness is to be managed to meet the VQO of Preservation.[12]

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[3] LRMP p.4-5
[4] Ibid.
[5] LRMP p. 4-6
[6] LRMP p. 4-14
[7] LRMP p. 4-23
[8] LRMP p. 4-34
[9] LRMP p. 4-24
[10] The assignment and management of VQOs was guided by the 1974 Visual Management System Handbook (Agriculture Handbook 462). That handbook was superseded by the 1995 Landscape Aesthetics – a Handbook for Scenery Management (Agriculture Handbook 701), which on page 2-4 equates the VQO of Preservation to a Scenic Integrity Level of "Very High".
[11] LRMP p. 4-27
[12] LRMP p. 4-34

Wilderness

- Complete a Fire Management Plan for each Wilderness in two years. Return fire to its natural role when not in conflict with public safety. Permit fire management activities that are compatible with wilderness objectives.[13]

Management Prescriptions for Wilderness

- Develop a fire management plan which uses planned and unplanned ignition to restore and maintain natural conditions. When implementing this plan, maintaining air quality is an overriding consideration.[14]

Minimum Impact Fire Management Activities

In the Trinity Alps, the Forest promotes minimum impact suppression methods that make use of natural barriers, topography or watercourses. Forest Service Manual (FSM) 2324.23 - Fire Management Activities - directs the Forest Service to:

Conduct all fire management activities within wilderness in a manner compatible with overall wilderness management objectives. Give preference to using methods and equipment that cause the least:

- *Alteration of the wilderness landscape.*
- *Disturbance of the land surface.*
- *Disturbance to visitor solitude.*
- *Reduction of visibility during periods of visitor use.*
- *Adverse effect on other air quality related values.*

Locate fire camps, helispots, and other temporary facilities or improvements outside of the wilderness boundary whenever feasible. Rehabilitate disturbed areas within wilderness to as natural an appearance as possible.

In addition, the National Wildfire Coordinating Group (NWCG) has implemented a strategy of Minimum Impact Suppression Tactics (MIST), with guidelines for managing fires with the least impact to values at risk. These guidelines for suppressing wildfires are also applied to prescribed fires. See Appendix E in the EA for Minimum Impact Suppression Tactics guidelines.

New River Watershed Analysis Key Findings and Recommendations

Conditions in the project area were addressed in the New River Watershed Analysis.[15] Key findings and recommendations to which this proposed action responds include the following:

- **KEYFINDING # 6** - Communities that are surrounded by a fire-prone forest will always have a potential threat to life and property. Forest fuels management actions are needed to minimize the threat of catastrophic wildfire damage to adjacent communities.

  Fire will always be a potential threat to life and property in communities surrounded by forest. Threat of fires can be reduced by working in conjunction with the communities and developing areas of modified fuel conditions surrounding them. To be effective, these are likely to be areas characterized by reduced fuels and more open space than the

[13] LRMP p. 4-29
[14] LRMP 4-95
[15] USDA Forest Service 2000

surrounding forest. Frequent prescribed fire will probably be an important part of the suite of treatments used to maintain these low-hazard areas.

Management Recommendation – Work in conjunction with communities to develop areas of modified fuel conditions surrounding them…

- **KEYFINDING # 7** - Management actions are possible to reduce adverse impacts to air quality related to wildfires. In order to meet air quality standards and eliminate adverse air quality effects to the extent possible, management actions are needed to control the amounts of forest fuels and to influence the timing of when fuels are consumed by fire.

  Adverse impacts to air quality occur whenever natural fuels burn. Management actions may be implemented to keep the level below that harmful to human health. Accomplishing multiple short duration burns will reduce the available fuels before a large, long duration wildfire materializes.

  Management Recommendation – Manage fuel treatment to reduce adverse impact to air quality…

- **KEYFINDING # 16** - There may be fire restoration management opportunities that could contribute to the local economy (e.g. Contracting/partnerships for trail maintenance, fuels management, survey and manage inventories....).

  Management Recommendation – Provide fire restoration and recovery opportunities that may contribute to local economies…

Analysis Methodology

Recreational resources were inventoried through existing map data, existing user survey data, Geographic Information System (GIS) data, Internet resources, and personal communication with STNF personnel. The Shasta-Trinity LRMP was reviewed with respect to Management Direction to determine recreation-specific guidance. Scenery analysis was conducted using the methods found in *Agriculture Handbook 462 – National Forest Landscape Management Volume 2*[16] and incorporating the concepts of scenic attractiveness and scenic integrity in the more recent *Agriculture Handbook 701 - Landscape Aesthetics: a Handbook of Scenery Management.*[17]

The following past, current, ongoing and reasonably foreseeable actions and events were considered in the cumulative effects analysis for recreation, scenery and wilderness values.

[16] USDA Forest Service 1974
[17] USDA Forest Service 1995b

Table 1. Past, current/ongoing and reasonably foreseeable future actions and events – Trinity Alps Wilderness Prescribed Fire Project.

Activity	Description	Date(s)	Location	Scope
Miscellaneous fires	Wildfires	1910-1980	In and adjacent to the project area	38,120 acres within wilderness, 768 acres within project area
1987 Complex	Wildfires	1987	Throughout the wilderness but outside the project area	35,252 acres within wilderness
Megram	Wildfire	1999	Mostly within but also adjacent to project area	70,351 acres within wilderness, 49,008 within project area
Bar Complex	Wildfire	2006	In and adjacent to project area	94,596 acres within wilderness, 7,460 within project area
Iron Alps Complex	Wildfire	2008	Portions within project area, portions outside project area but within wilderness	30,548 acres within wilderness, 3,708 acres within project area
Backbone (including Red Spot and Trinity Fires)	Wildfire	2009	Mostly within but also adjacent to project area	5,162 acres within wilderness, 4,898 acres within project area
Corral Fire	Wildfire	2013	Mostly adjacent but small portion within project area	13,098 acres within wilderness, 800 within project area
River Fire	Wildfire	2015	Mostly south of the project area, but a small portion within project area	2,285 within treatment units
Trail Maintenance	Trail maintenance activities according to wilderness management direction (FSM 2323.13f)	ongoing	Throughout the wilderness, within and outside the project area	Average of 100 miles per year within wilderness, 30 miles over the past 2 years in the project area.
Wildfire suppression	Suppression of naturally occurring wildfires using Minimum Impact Suppression Techniques (MIST)	ongoing	Throughout the wilderness, within and outside the project area	unknown

Recreation Opportunity Spectrum

The Recreation Opportunity Spectrum (ROS) is a continuum of recreation opportunity settings. A recreation opportunity setting is a combination of physical, biological, social, and managerial conditions that give value to a place. The ROS assumes that recreationists seek a range or spectrum of recreational opportunities from the highly constructed and interactive to the natural and solitude-oriented. The Shasta-Trinity National Forest uses five classes:

1. **Primitive (P):** Characterized by essentially unmodified natural environments with size and configuration assuring remoteness from the sights and sounds of human activity.
2. **Semi-Primitive Non-motorized (SPNM):** Characterized by predominantly natural or natural appearing landscapes and the absence of motorized vehicles. The size gives a strong feeling of remoteness. The presence of roads is tolerated, provided they are closed to public use, used infrequently for resource protection and management and road standards are visually appropriate.
3. **Semi-Primitive Motorized (SPM):** Characterized by predominantly natural or natural appearing landscapes and the presence of motorized vehicles. The size gives a strong feeling of remoteness.
4. **Roaded Natural (RN):** Characterized by predominantly natural-appearing settings with moderate sights and sounds of human activities and structures.
5. **Rural (R):** The sights and sounds of human activity are readily evident while the landscape is often dominated by human-caused geometric patterns.

Visual Management System (VMS)

The Shasta-Trinity Land and Resource Management Plan utilizes the Visual Management System (VMS) to reduce scenery impacts caused by management activities. VMS utilizes the distance of the project from the viewer, duration of the view, variety class and the sensitivity level of the viewpoint to assess visual impacts.

During the Forest Planning effort various Visual Quality Objectives (VQOs) were established for areas seen from travel routes. VQOs indicate allowable changes to scenery as a result of management activities. The VQO definitions and the VMS process are outlined below.

Visual Quality Objectives (VQOs)

- **Preservation:** Allows for ecological changes only. Management activities[18], except for very low visual-impact recreation facilities, are prohibited.
- **Retention:** Management activities are not evident to the casual forest visitor.
- **Partial Retention:** Management activities may be evident, but must remain subordinate to the characteristic landscape.
- **Modification:** Management activities may dominate the characteristic landscape, but must follow naturally established form, line, color, and texture characteristics.
- **Maximum Modification:** Management activities may dominate the characteristic landscape, but must follow naturally established form, line, color, and texture characteristics and should appear as a natural occurrence when viewed as background.
- **Unacceptable Modification:** Size of activities is excessive or poorly related to scale of landform and vegetative patterns in characteristic landscape, or overall extent of management activities is excessive, or activities or facilities that contrast in form, line, color, or texture are excessive. All dominance elements in the management activity are visually unrelated to those in the characteristic landscape. Unacceptable modification includes those visual impacts, which exceed 10 years duration patterns.

The following VMS components and/or definitions were used to develop the VQOs for the Shasta-Trinity National Forest. See Agriculture Handbook 462[19] for further information.

[18] Management Activity: An activity of man imposed on a landscape for the purpose of harvesting, traversing, transporting or replenishing natural resources.

- **Sensitivity Level:** A measure of people's concern for the scenic quality of an area. Travel routes, use areas and water bodies were rated according to the volume of use, duration and National or local importance.
- **Distance Zones:** The distance from which a landscape is viewed has an effect on how much detail, pattern, color, line, and texture a viewer sees. To capture this difference, various distance zones are established from sensitive viewing areas.
    - **Foreground -** The portions of a view between the observer and up to ½ mile distant. The surface patterns on objects and visual elements are important in the 'foreground' views.
    - **Middleground -** The portions of a view from ½ mile to five miles from the observer, (actual distance depends on actual viewing distances).
    - **Background -** The view five miles or more from the observer and as far into the distance as the eye can detect the presence of objects.
- **Variety Class:** A third component of the scenic environment relates to the degree of variety within a visual landscape (variety class). The more distinctive the variety class the more restrictive the visual quality objective (VQO). For instance, if a site has unusual features such as water features or distinctive rock outcroppings, the landscape would be classified as a higher variety class while, if a landscape has no distinctive features and has monotonous vegetation, it would be viewed as a more 'common' landscape (i.e. less visually interesting).

Scenery Management System (SMS)

Scenic Attractiveness

The Scenery Management System describes three classifications of scenic attractiveness, as follows:

Class A - Distinctive - Areas where landform, vegetation patterns, water characteristics, and cultural features combine to provide unusual, unique, or outstanding scenic quality. These landscapes have positive attributes of variety, unity, vividness, mystery, intactness, order, harmony, strong uniqueness, pattern, and balance.

Class B - Typical - Areas where landform, vegetation patterns, water characteristics, and cultural features combine to provide ordinary or common scenic quality. These landscapes have generally positive, yet common, attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance. Normally they would form the basic matrix within the ecological unit.

Class C - Indistinctive - Areas where landform, vegetation patterns, water characteristics, and cultural land use have low scenic quality. Often water and rockform of any consequence are missing in class C landscapes. These landscapes have weak or missing attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance.

Scenic Integrity

Scenic integrity indicates the degree of intactness and wholeness of the landscape character; it is a continuum ranging over five levels of integrity from very high to very low.[20] Corresponding

[19] USDA Forest Service 1974
[20] USDA Forest Service 1995b

levels of existing scenic conditions and visual quality levels from the original Visual Management System[21] are shown to the right of each level.

Table 2. Scenic Integrity Levels and their corresponding VQO levels.

Scenic Integrity Level	VQO Level	Description
VERY HIGH (Unaltered)	preservation	Landscapes where the valued landscape character "is' intact with only minute if any deviations. The existing landscape character and sense of place is expressed at the highest possible level.
HIGH (Appears Unaltered)	retention	Landscapes where the valued landscape character "appears" intact. Deviations may be present but must repeat the form, line, color, texture, and pattern common to the landscape character so completely and at such scale that they are not evident.
MODERATE (Slightly Altered)	partial retention	Landscapes where the valued landscape character "appears slightly altered." Noticeable deviations must remain visually subordinate to the landscape character being viewed.
LOW (Moderately Altered)	modification	Landscapes where the valued landscape character "appears moderately altered." Deviations begin to dominate the valued landscape character being viewed but they borrow valued attributes such as size, shape, edge effect and pattern of natural openings, vegetative type changes or architectural styles outside the landscape being viewed. They should not only appear as valued character outside the landscape being viewed but compatible or complimentary to the character within.
VERY LOW (Heavily Altered)	maximum modification	Landscapes where the valued landscape character "appears heavily altered." Deviations may strongly dominate the valued landscape character. They may not borrow from valued attributes such as size, shape, edge effect and pattern of natural openings, vegetative type changes or architectural styles within or outside the landscape being viewed. However, deviations must be shaped and blended with the natural terrain (landforms) so that elements such as unnatural edges, roads, landings, and structures do not dominate the composition.
UNACCEPTABLY LOW	unacceptable modification	Landscapes where the valued landscape character being viewed appears extremely altered. Deviations are extremely dominant and borrow little if any form, line, color, texture, pattern or scale

[21] USDA Forest Service 1974

Scenic Integrity Level	VQO Level	Description
		from the landscape character. Landscapes at this level of integrity need rehabilitation. This level should only be used to inventory existing integrity. It must not be used as a management objective.

Intensity of Effects

"Intensity" refers to the severity of effects or the degree to which the action may adversely or beneficially affect a resource. The intensity definitions used throughout the effects analysis are described below.[22]

Visitor Use / Recreational Users

- **Negligible:** Visitors would not be affected, or changes in visitor experience would be below or at the level of detection. Visitors would not likely be aware of the effects associated with the alternative.
- **Minor:** Changes in visitor experience would be detectable, although the changes would be slight. Visitors could be aware of effects associated with the alternative but only slightly.
- **Moderate:** Changes in visitor experience would be readily apparent. Visitors would be aware of the effects associated with the alternative and would likely be able to express an opinion about the changes.
- **Major:** Changes in visitor experience would be readily apparent and would have important consequences. Visitors would be aware of the effects associated with the alternative and would likely express a strong opinion about changes.

Duration of Effects

- **Short-term** effects are those occurring from actions in the immediate future (0–3 years).
- **Long-term** effects are those occurring over several seasons, 3 years and beyond.

Issues and Issue Indicators

Several issues related to recreation, scenic and wilderness resources were identified by the project Recreation/Scenery specialist and from comments received during the scoping period. The issues and issue indicators are as follows:

Recreation

Issue: Effects of project activities on recreational uses

Issue Indicators:

- Duration and extent of trail and other project area closures
- Duration and intensity of noise disturbance
- Duration and intensity of smoke disturbance

[22] USDA Forest Service 2009

Scenery

Issue: Effects of the proposed action on scenic values

Issue Indicator: Achievement of assigned VQOs and Scenic Integrity Levels

Wilderness Values

Issue: Effects of the proposed action on wilderness values and character

Issue Indicators:

- Predicted effectiveness of Minimum Impact Suppression Techniques (MIST)
- Duration and intensity of noise disturbance
- Achievement of assigned VQOs and Scenic Integrity Levels
- Compliance with the Wilderness Act of 1964.

Existing Condition

Recreation

The project area has limited recreational use compared to that of other areas of the wilderness due to its remote location and rugged terrain. The main recreational use within the project area is hunting – mainly occurring during deer season (late September to early November). There are minor amounts of fishing, gold panning, and some hiking that occurs; however, use is sparse. Recent trail maintenance has opened several miles of previously overgrown trails within the project area; thus use of these trails for hiking and backpacking could increase.[23] In accordance with the Wilderness Act (1964), no mechanized or motorized vehicle use is allowed in wilderness; thus, no designated OHV routes or trails exist within the project area. Unauthorized OHV use is not reported to be an issue due to the remote location and extreme terrain of the project area. Possible future growth of the communities in northern California will likely increase demands on the project area for recreation opportunities.

As directed by the forest plan (see above), management of recreation in the Trinity Alps Wilderness emphasizes dispersed recreation, and recreational settings are managed to generally achieve primitive ROS conditions.

Trails

There are approximately 73 miles of trail within the project area (see map B-1 in Appendix B). Originally constructed for purposes such as mining, stock travel or fire management, only about 40 percent of the existing trails have been maintained for use over the past 20 years. The limited use that has occurred has been primarily for hunting and fishing.

The Trinity Alps trail system is managed to a variety of maintenance levels. According to the LRMP:

"High standard trails exist where public demand is highest. Other trails are maintained at differing, lower standards to accommodate more primitive, less used areas"[24].

[23] Sorochtey 2011 personal communication
[24] LRMP p. 4-94

The main trails (those more than 2 miles long) in the project area include Battle Creek, Eagle Creek, Emigrant Creek, Salmon Summit, Slide Creek, Soldier Creek, and Virgin Creek. Refer to Appendix A for a detailed description of all trails within the project area.

Many trails in the project area have been affected by fire. Some trails have been modified to serve as firelines (or fuel breaks) and are therefore very wide; trees around them have been felled or bucked, and piles of brush are stacked beside them. Other trails have been more directly impacted by fire and now have obstructions to passage (e.g. downed and burned trees, landslides that may have been caused by a lack of vegetation, etc.). These conditions, along with danger trees and unstable rocks, pose safety concerns for hikers and stock users.

As previously mentioned many of the trails within the project area had not been maintained due to a lack of funding and thus were overgrown with brush.[25] Recent funding, however, has allowed for maintenance of these trails, thus providing more access for recreationists. See Appendix A for a list of trails in the project area and current trail conditions.

Road Access

The southern boundary of the project area is adjacent to the Bake Oven Ridge and Bell Quinby Inventoried Roadless Areas. There are no roads within the project area.

A limited number of roads − National Forest System (NFS), County, or private − access the wilderness boundary of the project area. Trails leading into the southern portion of the project area can be accessed via NFS roads 7N04 (Quinby Creek Road), 7N12 (Caraway Creek Road), 7N15 (Fawn Ridge Road) and County Road 7N01 (East Fork New River Road). These southern entry points have the most visitor use due to access to the Scenic Byway Route 299. There are no access roads to the eastern boundary of the project area. The 10N01 road (Skelton Butte Road), off of Hwy 93, connects to trails in the western and northern portions of the project area.

Map B-2 in Appendix B displays the transportation system in and adjacent to the project area.

Campgrounds/Cabins

There are no established wilderness camp sites within the project area. The nearest developed campground to the project area is the 'Denny' campground, which is approximately one mile south of the town of Denny and three miles south of the project area (see map B-3 in Appendix B).

Wild and Scenic Rivers

The National Wild and Scenic Rivers System was created by Congress in 1968[26] to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. The Shasta-Trinity National Forest may recommend rivers for this designation in order to *"maintain examples of pristine aquatic and riparian ecosystems and provide river-oriented recreational opportunities"*.[27] Rivers are classified as wild, scenic, or recreational.

Several rivers within the Trinity Alps Wilderness are congressionally designated Wild and Scenic corridors, or are considered 'recommended' or 'suitable' for this designation but not yet designated. Approximately 9.4 miles of New River (Congressionally designated as a Wild river in 1981) and 22.6 miles of Virgin Creek (recommended for Wild status) flow through the project

[25] Sorochtey 2011 personal communication
[26] Public Law 90-542; 16 U.S.C. 1271 et seq
[27] LRMP p. 2-6

area (see Map B-1 in Appendix B). These rivers support anadromous fish such as salmon and steelhead. The primary recreational uses along Virgin Creek include hiking, fishing and equestrian use. Visual quality along the Virgin Creek is labeled as Variety Class A (Distinctive – unusual or outstanding visual quality) and Sensitivity Level I - Highest Sensitivity.[28]

There are no permitted rafting operations/guides within the Trinity Alps Wilderness. A few guide services operate seasonally on four tributaries that originate in the Wilderness - North Fork, Canyon Creek, Stuarts Fork and Coffee Creek (all outside the project area); however, the stretches of river they mainly use are outside the Wilderness boundary. There is some non-commercial white-water boating activity on the New River within the project area; however, use is very low compared to that of other portions of the wilderness.[29] These uses occur when there are adequate high flows in the winter and spring.

Scenery

The Trinity Alps Wilderness (Alps) is a vast landscape known for its remote areas of steep, rugged terrain. The project area is within the Klamath -Siskiyou Landscape Province Character Type − as defined by the Visual Management System.[30] The province is typified by highly forested repetitive ridges of similar but rising elevations towards the east. The ridge tops are often quite narrow and the canyons are deep in most places. The project area is representative of the Klamath-Siskiyou Character Type. The forest is comprised of mixed conifer stands (e.g. Douglas-fir, Sierran mixed conifer, red fir, white fir) with variable understory (e.g. Oregon grape, deer brush, bitter cherry, coffee berry, etc.) and hardwood (e.g. big leaf maple, madrone, tanoak, live oak) species. Elevations in the project area range from about 1500 feet to 6700 feet.

Few forested regions have historically experienced fires as frequently and with such high variability in fire severity as the Trinity Alps (Taylor and Skinner 1998). On the western edge of the Klamath Mountains, median fire return intervals ranged from 15 to 26 years (Stuart and Salazar 2000) and lower elevation mixed conifer forests burned every 5 to 19 years (Fry and Stephens 2006). With frequent fire of low to mixed severity, vegetation growth and fuel accumulations over most of the area were historically maintained at lower levels than currently exist, and natural topographic features such as ridgelines and streams were often sufficient to impede fire spread (Taylor and Skinner 2003).

Historically, mixed-severity fires in the area played a significant role in creating a scenic character with high spatial complexity of vegetation, including openings of different sizes, forested stands that were generally more open and late-successional, closed-canopy forests. Fire suppression has resulted in uncharacteristically dense vegetation with high fuel loading. Past fire suppression has also altered the undeveloped character and natural conditions in some portions of the project area (e.g. felled trees with cut stumps visible along some of the ridgetops). The project area has experienced several large-scale, high-severity wildfires whose effects are readily apparent. Large portions of fire-adapted ecosystems within the Alps are in a state of significant departure from their historical (pre-suppression, pre-1905) fire regime. Historically, approximately 90 percent of the analysis area supported vegetation at or below a fire return interval of 20 years. Approximately 91 percent of the project area has missed at least three fire intervals, with some areas having missed as many as six intervals. The visual appearance of the landscape today is out of character with its historic range of variability, with respect to vegetation. See the project vegetation report for further characterization of vegetation within the project area.

[28] USDA Forest Service 1995c
[29] Sorochtey 2011 personal communication
[30] USDA Forest Service 1974

Although there are no sensitive travel corridors within the project area, the Trinity Alps Wilderness has a Sensitivity Level 1 − the highest sensitivity level − due to its designation as a wilderness area.[31] Additionally, it carries the VQO of Preservation, which corresponds to the scenic integrity level of Very High. The area is not visible from regional travel routes.

The project area currently meets the assigned VQO and is characterized by a mixture of scenic variety and attractiveness classes. Some areas, particularly along Virgin Creek, are scenic attractiveness Class A – Distinctive and have a scenic integrity level of Very High. Other areas would be Class B (Typical) or even C (Indistinctive). A mixture of variety classes (distinctive, common and minimal) can also be found.[32] However, several visual components in the project area have also been negatively affected by past fire suppression efforts. Firelines established during previous wildfires altered the width and vegetation along some trails, essentially degrading the visual quality of the routes. For example, portions of the Salmon Summit to Fawn Ridge ridgeline burned in the 2009 Backbone Fire. Much of the area has a high density of large snags and fuel loading where the Backbone Fire did not burn but where suppression line was constructed (see figure 1 below).

Additionally, although fire is a natural component of the Trinity Alps ecosystem, recent extreme fire behavior - compared to that of historical conditions - has resulted in large expanses of severely burned vegetation (see the project Fire and Fuels report); this condition is generally considered undesirable from a scenery perspective.

Figure 1. Salmon Summit ridgeline, Trinity Alps Wilderness (2009)

Socio-economics

In 2009 the median household income for Trinity County was $ 33,546 – far below the California state average of $58,925.[33] Trinity County is a rural region with a high percentage of public land, and the area is largely dependent on tourism and/or natural resources for its economic foundation.

[31] USDA Forest Service 1974
[32] Joyce 2011 personal communication
[33] United States Census Bureau 2009

Recreation-based businesses (e.g. fly-fishing and hunting supply stores, rafting companies, etc.) and service providers (e.g. gas, food, and lodging) operate in various towns along the Highway 299/Trinity River corridor – within Trinity County and also in adjacent Humboldt and Siskiyou Counties. Weaverville (the Trinity county seat) and Willow Creek are the two main communities closest to the project area that provide full service opportunities for visitors. Private timber companies have also remained active in the County. There is little-to-no tourism within or near (within 10 miles) the project area due to its remote location.

Adjacent Communities and the Wildland-Urban Interface

The Klamath Mountain region has a low human population compared with California as a whole; however, a large proportion of the area is classified as being within the wildland-urban interface due to the dispersed nature of dwellings in small, scattered communities surrounded by flammable wildland vegetation. As a result, several hundred homes have been lost to wildfires that originated in the bioregion in just the last three decades.[34]

Communities adjacent to the project area span three counties – Humboldt, Siskiyou, and Trinity. The community of Denny is the nearest town to the project area, less than three miles away, and it provides an access point to the southern portion of the project area. There are no services in Denny and, as noted previously, non-local visits to the project area are minimal. Other nearby towns include (but are not limited to): Big Bar, Big Flat, Burnt Ranch, Del Loma, Forks of Salmon, Hawkins Bar, Hoopa, Junction City, Orleans, Salyer, Somes Bar, Weitchpec, Weaverville and Willow Creek. Although many towns are in close proximity to each other (less than 20 miles apart), the mountainous terrain and winding nature of the roads in the area create a sense of remoteness for these communities. See map B-3 in Appendix B.

There are considerable concerns within these communities regarding the potential direct (e.g. loss of homes, air quality/public health issues, threats to domestic water supplies) and indirect (e.g. loss of income due to decreased tourism in the area) impacts from fire. There have been a number of large fires in the project area − Megram Fire (1999), Bake Oven Fire (2006) and Backbone Fire (2009) − that burned for long periods resulting in poor air quality (hazardous conditions), thus decreasing tourism or recreation in the area[35] .

The Trinity County Fire Safe Council is an active group in the area that is interested in coordinating efforts between the Shasta-Trinity and the Six Rivers National Forests regarding fuels reduction and restoration activities. A plan was developed in 2005, partially in response to the Big Bar Complex Fires of 1999, which prioritizes areas for hazardous fuel reduction treatment in order to protect land throughout Trinity County. In particular, it identifies values at risk from high-severity fire near the Denny area (e.g. tributaries to the New River and 'remaining old-growth habitat').[36]

Wilderness Values

Current Condition of Wilderness in the Project Area

As noted above, the project area encompasses approximately 58,000 acres – or about 11 percent - of the Trinity Alps Wilderness (Alps), while the proposed treatments would comprise a maximum of 19,088 acres, or four percent of the Alps.

[34] Skinner et al. 2006
[35] Sorochtey 2011 personal communication
[36] Trinity County Resource Conservation District 2005

The Shasta-Trinity National Forest manages the majority of the Alps and the entire project area. The Alps were first set aside as part of the 196,420-acre Salmon Trinity Alps Primitive Area in 1932, with another 83,840 acres added in 1933. In 1984, with the passage of the California Wilderness Act, the Alps became an official, congressionally-designated wilderness area.[37]

The Alps encompass 511,951 acres of federal lands and 4,285 acres of private lands. The USDA Forest Service is responsible for the administration and land management of the National Forest System lands within the area. Three National Forests (Six Rivers, Klamath and Shasta-Trinity) administer programs within the Alps.

Although the Trinity Alps Wilderness contains portions of many grazing allotments, there are none within the project area. The Trinity Summit and Forks range management units are adjacent to the project area west of the Salmon Summit to Fawn Ridge treatment area and north of the Election Gap to Salmon Summit treatment area, respectively.

The Forest Plan Appendix Q[38] identify four Wilderness Opportunity Classes (Pristine, Primitive, Semi-primitive, and Transition) for the Shasta-Trinity NF. Opportunity classes are hypothetical descriptions of conditions that are most likely to be developed, maintained, or restored within the wilderness. The project area is within the DEIS recommended 'Pristine' class, which is characterized by an unmodified natural environment, opportunities for isolated and solitary experiences, and a management objective of sustaining and enhancing natural ecosystems. The portion of the wilderness that the project area encompasses, however, has had major modifications via wildland fires and associated fire suppression activities.

Fire is a natural component of wilderness character. The Wilderness Act of 1964 addresses that natural and prescribed fire may be allowed to burn in wilderness areas under certain conditions. It further states that mechanized equipment may be used in wilderness areas to eliminate or minimize threats to human life or property resulting from fire. The Wilderness Act generally prohibits the use of motor vehicles in wilderness. The law contains special provisions for motor vehicle use when required in emergencies or as necessary for the administration of the area.

FSM 2324.2 describes Forest Service policy regarding management of fire in wilderness and includes objectives to "reduce, to an acceptable level, the risks and consequences of wildfire within wilderness or escaping from wilderness". It also designates that prescribed fire, other than lightning ignition, must only be ignited by qualified Forest Service officers consistent with a specific wilderness management or fire management area plan. Generally, use of mechanized or motorized equipment, including helicopters and chainsaws, is prohibited in wilderness areas. A waiver to this prohibition can be approved by the authorized official if a Minimum Requirements Analysis is completed and signed following the protocols of the Minimum Requirements Decision Guide (MRDG). An MRDG for this proposal was finalized on June 17, 2013 and can be found as Appendix D in the EA.

Desired Condition

Desired future conditions for the land allocation in which treatments would occur – MA 4 (Wilderness Management Areas) - are described in the Shasta-Trinity NF Land and Resource Management Plan (LRMP or Forest Plan)[39] and in Forest Service Manual (FSM) 2300, Chapter 2320 – Wilderness Management. In summary, these desired future conditions are as follows:

[37] USDA Forest Service 1995c
[38] USDA Forest Service 1995a
[39] Ibid.

1. The risks and consequences of wildfire occurring within wilderness or escaping from wilderness are at an acceptable level.[40]
2. The fuels condition allows for reduced fire behavior characteristics and enables wildfire suppression tactics to make use of natural barriers, topography or watercourses and minimum impact suppression techniques.
3. Lightning-caused fires play, as nearly as possible, their natural ecological role within wilderness[41] [42], with an appropriate suppression response ranging from confinement to control[43] to protect public safety.
4. The risks and consequences of public health and safety concerns caused by hazardous air conditions are reduced.

Regarding scenery and recreation, the desired landscape character is a healthy forest ecosystem that looks natural from sensitive viewpoints. Although events such as wildfires and naturally-caused vegetative disturbances are noted as occasionally apparent but do not dominate the landscape[44].

[40] FSM 2324.21
[41] Ibid.
[42] LRMP page 4-93
[43] LRMP page 4-17
[44] LRMP p. 4-94

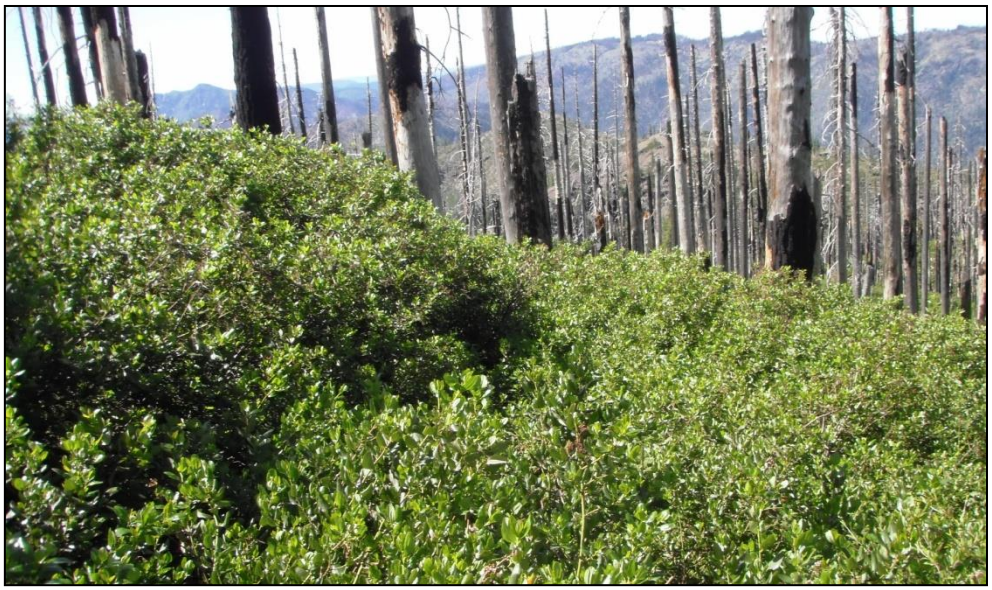

Figure 2. Trail out of Eightmile Camp, Trinity Alps Wilderness (2011)

There is only one LRMP Prescription within the project area, V – Wilderness, which supports the landscape character goal of managing to meet the VQO of Preservation. According to the LRMP, *"The setting is essentially an unmodified natural environment. Evidence of trails is acceptable, but structures are rare. Few users will be encountered on trails and few parties will be visible at camp sites*[45]." Primitive recreation is emphasized. It should be noted, however, that the project area has had modifications to the natural environment via fire suppression efforts of the past.

Environmental Consequences

Project Design Features

For a complete list of project design features see Chapter 2 of the EA. The following design features relate to recreation, scenery, socio-economics, and/or wilderness values:

1. Air quality design features (see EA) would be implemented to reduce short- and long-term smoke impacts to recreationists.
2. Closure of trails and trailhead facilities would be implemented when proposed activities have the potential to be hazardous to the public. Notify the public of trail closures through announcements in the local newspaper, post-office, and fire department, posting of signs at trailheads, and making information available at local District offices.
3. Where safety considerations and qualified personnel make possible, danger trees could be blasted to avoid the unnatural appearance of stumps. See the project record for a description and illustration of this method, which is the preferred treatment for danger trees in wilderness areas.

[45] LRMP p. 4-33

Where blasting is not considered safe or qualified personnel are not available, danger trees would be cut with stumps as close to the ground as possible; stumps would then be covered with on-site vegetation or other materials. Trees would be felled using hand saws unless it is determined on a site-specific basis that use of chainsaws is necessary for safety reasons.

4. Trail work associated with project implementation would be accomplished via non-mechanized (i.e. hand) methods. Chainsaws would only be used in specific instances where use of a crosscut saw is deemed unsafe (see the project Minimum Requirements Decision Guide in the project file).
5. Trails affected by project implementation activities will be restored to pre-project conditions, or better, following implementation and consultation with trails program manager.
6. The Forest's Wilderness Program Manager, or their delegate, will be included in decisions which could affect wilderness character, such as the use of mechanical transport or motorized equipment, including the review of project Burn Plans and Amendments.
7. Minimum Impact Suppression Tactics (MIST) and Forest Service Manual (FSM) 2324.23 direction for fire management activities in wilderness would be followed during all phases of implementation. Such tactics include, but are not limited to, the following :
    a. No new fireline is planned for project implementation. Existing firelines and/or trails would be used.
    b. No new helispots would be constructed. Existing helispots would be used.
    c. Hazard trees along system trails would be flush-cut as close to the ground as possible and then covered with duff or other on-site natural materials to minimize their appearance, or blasted to promote a naturally decayed appearance.

Alternative 1 - No Action

Direct and Indirect Effects

Under the no action alternative, management activities would not change. Wildfire suppression in the event of unplanned ignition would continue, as directed by the forest plan. Fuels in the project area would continue to accumulate, and understory growth would proliferate. The no action alternative would have no direct effects on recreation, scenery, socio-economics, or wilderness values. However, implementation of this alternative could have indirect effects, as described below.

Recreation

Continued growth of understory vegetation could further limit access to trails and rivers, thus reducing opportunities for hunting, fishing, hiking, etc. In the event of a large-scale, high-severity wildfire, periods of hazardous air quality and/or trail and road closures would be likely, could be protracted, and could reduce recreational opportunities or degrade the recreational experience in the project area.

Scenery

The no action alternative would perpetuate a forest condition of dense vegetation, and would meet the VQO of Preservation. This condition would have low visual diversity and would also inhibit the sight distance of the viewer, thus resulting in a less interesting visual experience. This alternative would not address high fuel levels, and would therefore also increase the susceptibility of the area to large-scale, high-severity fire (see the project Fire and Fuels report). Such a fire could result in a visually undesirable condition of uncharacteristically large expanses of charred or dead trees, denuded vegetation, and residual debris, with a loss of valued scenic attributes and alteration of landscape character. These visual effects could persist for decades, until the forest overstory in the affected areas regains dominance over understory vegetation.

Additionally, in the event of a large-scale fire, impacts to scenery from protracted periods of smoke and poor air quality would be short-term and moderate- to- major. Persistent temperature inversions during times of atmospheric stability could trap smoke over large areas (as in the 1987, 1999 and 2008 wildfires), limiting middle ground and background views.

Socio-economics

The no action alternative could result in an increased susceptibility to high-severity fires, which may indirectly decrease tourism in the larger area – thus negatively impacting the local businesses that rely upon financial input from visitors. Decreased use of the project area, however, would likely result in little-to-no effect on revenue due to the limited current use. Implementation of the no action alternative would also mean that no potential revenues to local communities from employment opportunities associated with project implementation would be realized (e.g. increased consumer activity from implementation staff, contracting needs for specific equipment such as helicopters, etc.).

Wilderness Values

As no proposed management activity would occur the no action alternative would be consistent with the Wilderness Act of 1964. As noted above, the no action alternative would increase the susceptibility to high-severity fires within the project area. In the event of such a fire, noise disturbance would temporarily increase in the project area due to suppression equipment operation (e.g. helicopters, chainsaws, etc.). Smoke disturbance would also likely affect the project area. These disturbances would negatively impact wilderness values, and use of the area may temporarily decline during and immediately following such an event. Conversely, the decline in use of the project area would enhance the solitary wilderness experience for those visitors who do use the area (upon re-opening of trails), as fewer encounters with other visitors would occur.

Cumulative Effects

Cumulative effects analysis considers the additive impacts that could arise from the project's direct and indirect effects combined with the direct and indirect effects of other past, present, and reasonably foreseeable projects. The current condition serves as a baseline which includes the effects of past projects. Trail maintenance is the only management activity located within proximity to the project area which could contribute to cumulative effects. Past wildfire events have influenced the area and are considered part of the baseline condition. Potential future wildfires are not planned management activities and their specific effects are not known. For this reason these potential wildfires are not considered in cumulative effects analysis. This analysis is bound geographically by the Trinity Alps Wilderness, and considers a time frame of fifteen years beyond project implementation, at which time vegetation re-growth should obscure the visual evidence of project implementation.

The no-action alternative would not result in any direct effects, but has an indirect effect of continued vegetation biomass accumulation and susceptibility to wildfire. Combined with the direct and indirect effects of future trail maintenance activity the project's indirect effect would not be significantly altered. Trail maintenance could offset the negative effects associated with vegetation reducing trail access, and could increase the public use of the area.

Conclusion

Implementation of the no action alternative would have no direct effect on project area recreation, socio-economic, scenery, and wilderness values, and would be consistent with the Primitive ROS class and VQO of Preservation An indirect effect of the no action alternative is the continued vegetation biomass accumulation and susceptibility to wildfire. In the event of a wildfire, depending on conditions, undesirable and potentially significant negative effects could result from a large, high-severity wildfire. Potential negative effects include loss of valued scenic character and degradation of recreation experience and opportunity.

See the project Fire and Fuels report for detailed analysis of predicted future fire behavior under the no action alternative.

Effects Common to Both Action Alternatives

Direct Effects

Recreation

As previously noted, trail work associated with project implementation would be accomplished via non-mechanized (i.e. hand) methods. However, in the event of needed chainsaw use (i.e. specific instances where use of a handsaw is deemed unsafe), the noise and possible dust output would primarily affect recreation attributes of "remoteness of activity areas or travel ways," and "evidence of human activities" within the project area. Possible effects would be temporary, though potentially of moderate level. Timing of implementation could correspond to times of highest recreational use (implementation would occur between mid-September to late January, due to the Limited Operating Period for northern spotted owl). As described above, overall recreation use within the project area is low, and the possible adverse effects to recreation are considered to be of a level that would be short-term and minor.

Fire can be a danger to public health and safety for visitors to the project area. Access to the project area will be closed to the public during prescribed fire and implementation periods to avoid potential risks to public safety. Trails would be closed to all users as needed during implementation. Recreationists using off-trail portions of the project area (e.g. hunters) could be negatively affected by area closures. Monitoring of trails during burning operations, as well as posting closure information at trailheads would help to reduce the possible adverse effects to recreation.

Scenery

Since no new firelines or helicopter landing spots would be created during project implementation and existing firelines would be cleared of large accumulations of downed debris, the visual quality –with respect to these implementation aspects – would remain the same or improve with this alternative. The blasting of hazard (danger) trees and the covering of stumps along trails with duff would also minimize any negative impacts to visual quality in the project area.

The prescribed burn would cause the charring or blackening of trees to varying extents throughout the project area to create a mosaic burn severity pattern, primarily of low- to moderate-severity surface fires. Vegetation severity modeling predicts that approximately 10 percent of either action alternative will result in high severity, while approximately 15 percent will result in moderate vegetation severity (see project Fire, Fuels, Air Quality and Vegetation Report). Although research is somewhat limited regarding social perceptions of the aesthetic impacts of prescribed burning, some studies[46] [47] have noted the immediate and possible longer-term effects of charring or tree death as a result of prescribed burns being perceived negatively by the public. Other research, however, has found a positive perception of 'light' fires in that they improved scenic quality in a forested landscape within one to five years after implementation.[48] The visual impact of the prescribed low- to moderate-severity surface fire will be measurably less than the effects of large-scale, high-severity wildfires which have affected the project area in the past and are readily apparent. While there would be effects to scenic resources, they are considered to be less than significant and are consistent with the VQO of Preservation.

Additionally, the removal of some of the dense understory through prescribed burning would allow visitors to see further into the forest – allowing for more varied foreground and middle-ground views. More forest openings would also enhance visual diversity in form, color, texture, and scale which is seen as more interesting or visually desirable than a homogeneous landscape.

Potential visual impacts to scenery from smoke produced during project implementation would be reduced through design features that comply with regional and federal air quality standards. Periods of smoke would occur as a result of project implementation however they would be of short duration (see the project Air Quality report).

Prescribed burning would be conducted when trail and hunting-ground use is at its greatest, although overall use is typically low. The time frame of potential burn is dictated by the Limited Operating Period for northern spotted owl; however, air quality, weather, and fuel moisture conditions are the primary considerations for the specific time of burn within the allowable time frame. In this case, the severity of effects would not be outside the historic range of variability for natural fire events, so scenery effects would be negligible.

[46] Gobster 1999
[47] Ryan 2005
[48] Taylor and Daniel 1984

Approximately 9.4 miles of the New River are congressionally designated as a "Wild" river corridor under the Wild and Scenic Rivers Act, which seeks to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. A one-quarter mile corridor around this length of river is identified under this designation. Proposed project activities include a prescribed fire that would back down the hillside from the west, with the New River acting as a natural control line for the prescribed fire. The surface fire is anticipated to burn in a mosaic of intensities resulting in a variation of degrees of fuel consumption. This activity has the potential to negatively affect scenic values if fire intensities within the one-quarter mile river corridor are severe and little to no vegetation survives. Overall, the results of the prescribed fire will be visible to the west of the New River designated corridor but the effects will be representative of the area's historic range of variability for vegetation conditions, and is considered a less than significant effect.

Socio-economics

There may be a direct effect of minimally increased local revenue during project implementation.

Wilderness Values

Safety considerations may necessitate the occasional use of chainsaws for short durations (see above). The use of helicopters to ignite prescribed fire would incur some additional noise. The noise disturbance would primarily affect 'Pristine' wilderness values of "solitary or isolated experience," and "no evidence of human activities" within the project area. The effects would be temporary, though potentially of moderate level. Scheduling of fire treatments could correspond with peak hunting season (late September to early November) based on the Limited Operating Period for northern spotted owl. Trail access to project areas would be closed for safety during project implementation, reducing wilderness visitor exposure to project noise from motorized equipment to a level that is considered to be a less than significant effect.

Maintenance of existing firelines would include disposing of heavy accumulations of large dead and downed fuels that may occur from Election Gap to Salmon Summit and from Salmon Summit to Fawn Ridge – a distance of approximately 32 miles. This activity would be accomplished by ground crews using non-motorized methods (e.g., ground crews using primitive tools such as crosscut saws, pry bars and manual grip hoists). The use of chainsaws during fireline maintenance would be limited to situations in which it is determined that use of crosscut saws would be unsafe (e.g., felling of danger trees that cannot be safely avoided or otherwise neutralized). Such instances are predicted to be rare. Prescribed fire would consist of aerial ignition (plastic sphere dispenser and/or helitorch) and/or hand lighting methods. Helicopters may be used both for ignition and logistical support (e.g. longlines for supplies). No new helispots would be constructed, and helicopters would not be anticipated to land on existing helispots within the wilderness except in an emergency or for safety considerations. Helicopter flight time within wilderness would average approximately 4 to 5 hours in a given day, would be intermittent rather than continuous, and would be based on weather and burning conditions.

Use of mechanized equipment, including helicopters and chainsaws, is generally prohibited by the Wilderness Act of 1964. A Minimum Requirement analysis has been completed (Appendix D of the EA) and approved by the Forest Supervisor for this project (see project record), which documents a project-specific exemption to this prohibition and ensures compliance with the Wilderness Act. Visibility and the sounds of mechanized equipment in the project area will be inconsistent with visitor expectations and wilderness values within the project area. This

inconsistency will be of short and limited duration and is considered a less than significant impact.

Approximately 9.4 miles of the New River are congressionally designated as a "Wild" river corridor under the Wild and Scenic Rivers Act. A one-quarter mile corridor around this length of river is identified under this designation. Proposed project activities include a prescribed fire that would back down the hillside from the west, with the New River acting as a natural control line for the prescribed fire. The surface fire is anticipated to burn in a mosaic of intensities resulting in a variation of degrees of fuel consumption. This activity has the potential to negatively affect wilderness values if fire intensities within the one-quarter mile river corridor are severe and little to no vegetation survives.

Indirect Effects

Recreation

Implementing fuel reduction through prescribed fire would maintain or encourage late-successional characteristics (e.g. more spaces with large trees interspersed) over much of the project area over the long-term. This would enhance the recreation experience, particularly with respect to "nature encounters" (e.g. increased opportunities to observe wildlife) and enjoyment of late-successional forest characteristics such as large trees. Additionally, prescribed fire should increase the quality of browse in the project area for species such as deer (see the Wildlife report in the project file), which would indirectly increase the quality of hunting experiences as well. Indirect effects of smoke and noise from prescribed fire and project implementation would negatively affect recreation experience in the lands nearby the project area, however this effect would be of short duration and is considered a non-significant effect.

Scenery

As already noted, implementing fuel reduction through prescribed fire would maintain or encourage late-successional characteristics (e.g., more spaces with large trees interspersed) over much of the project area. This specific result would enhance scenery over the long-term, as openly-spaced larger trees are generally seen as more visually pleasing than expanses of smaller, more densely-spaced trees.[49] This would be a minor beneficial effect. The project would indirectly change the vegetation structure in the area in a way that more closely represents the historic range of variability and that will be more resilient to wildfire in the future. This change will help to preserve long-term scenic values.

Socio-economics

As noted previously, fire concerns regarding public health and safety may necessitate the temporary closure of trails and other access points for recreationists. This, coupled with short-term increased smoke in the area may possibly decrease use of the surrounding area (i.e. areas outside of but nearby the project area that were not closed for safety concerns) during implementation of prescribed burns. Lower use of the area may indirectly result in a negligible net financial loss to local businesses due to the current lack of use as well as the lack of services in nearby towns. Scheduling of fire treatments to occur outside of the peak recreation use period would also likely reduce the adverse impacts to temporary and minor.

[49] Ryan 2005

Wilderness Values

As noted previously, fire concerns regarding public health and safety may necessitate the temporary closure of trails and other access points for recreationists. This, coupled with short-term increased smoke in the area may possibly decrease the already minimal recreational use (i.e. hunting and fishing) during implementation of prescribed burns. This effect would be of short duration. Increased vegetation long-term sustainability and resilience to wildfire will help preserve landscape characteristics that support wilderness values.

Lower use of the area may result in a negligibly increased 'solitary' experience for the wilderness visitors that do use the area once access is re-opened post-implementation. This effect would also be of short duration. Wilderness users may avoid the project area during implementation and choose to visit another portion of the Wilderness instead. This could indirectly increase the visitation of these other areas and reduce the 'solitary' experience and wilderness values in these areas. This would be of short and limited duration and is considered a less than significant impact. There are no indirect project effects that would be inconsistent with the Wilderness Act.

Cumulative Effects

Cumulative effects analysis considers the additive impacts that could arise from the project's direct and indirect effects combined with the direct and indirect effects of other past, present, and reasonably foreseeable projects. The current condition serves as a baseline which includes the effects of past projects. Trail maintenance is the only management activity located within proximity to the project area which could contribute to cumulative effects. Past wildfire events have influenced the area and are considered part of the baseline condition. Potential future wildfires are not planned management activities and their specific effects are not known. For this reason these potential wildfires are not considered in cumulative effects analysis. This analysis is bound geographically by the Trinity Alps Wilderness, and considers a time frame of fifteen years beyond project implementation, at which time vegetation re-growth should obscure the visual evidence of project implementation.

Recreation

Project effects include temporary closures to trails and short-term limitations to recreation access within areas immediately affected by implementation activity. Other trail maintenance projects could result in an increase in public use of the area, which would increase the number of individuals that would be negatively affected by short-term project-related recreation closures. There are unlikely to be any additive or cumulative impacts associated with these limitations, as other planned trail work will not likely occur simultaneously with project implementation. No other projects are anticipated to contribute smoke to the area, might contribute to a cumulative effect of decreased quality of recreation experience in the area.

Scenery

Future trail maintenance projects within the area will improve public access and views of the project area landscape. This effect combines with the indirect effects of this project which will improve the quality of the scenery in the project area following a period of vegetation regrowth after initial implementation activities are complete. No negative cumulative effects to scenery are anticipated.

Socio-economics

Implementation of either Alternative 2 or 3 could temporarily increase local employment during project implementation. No other management activities would contribute cumulatively to this indirect project effect.

Wilderness Values

Direct and indirect effects associated with the project are consistent with the wilderness values and with the Wilderness Act. Considering the cumulative impact of other project effects, namely trail maintenance using non-mechanized means, there would be no negative cumulative effect to wilderness values, or concern regarding compliance with the Wilderness Act.

Conclusion

Alternative 2 would have primarily beneficial effects to recreation, scenery, socio-economic and wilderness values through reducing the risk of large-scale, severe wildfires. Minor beneficial effects would occur due to creation of a more open setting with large trees and increased opportunities for wildlife viewing. Implementation of prescribed fire as proposed would create short-term minor adverse effects, however; these changes would be indistinguishable from the effects of a naturally occurring mixed-severity wildfire. Implementation of resource protection measures would reduce these effects to minor levels. The project area would continue to meet the Primitive ROS class and would be consistent with the VQO of Preservation.

Alternative 3 – Additional Treatment Areas

All effects described for Alternative 2 would apply to Alternative 3 as this alternative only adds acres of treatment. The addition of three treatment areas in Alternative 3 would increase the extent of both the short-term adverse effects and the long-term beneficial effects. In particular, the wilderness boundary to Virgin Creek (Soldier Creek) treatment area follows the ridgeline and the Soldier Creek Trail (7E01). Prescribed fire along the ridgelines will be more visible than other areas being treated. The character of the backfire will result in irregular pattern of burn severity which will help decrease the visual contrast between these areas and the adjacent untreated landscape. Burning adjacent to the system trail will negatively affect the foreground views and recreation experience from this trail following project implementation. These negative effects will likely begin to be mitigated within one or five years as understory vegetation becomes established. The likelihood of short-term and minor adverse effects such as temporary trail closure, noise from helicopters, or possible chainsaw use (in the event of safety concerns) would be increased in this area.

Compliance with the Forest Plan and Other Regulatory Direction

With incorporation of the proposed design features, implementation of either action alternative would be consistent with direction provided in the forest plan, FSMs, and other applicable policies, laws, and direction (see Regulatory Framework section of this report) for preservation of wilderness character, scenery, air quality and other values that contribute to the recreation experience within the project area. The no action alternative would also meet regulatory

direction, at least in the short term. However, over the long term, continued accumulation of historically-departed fuel levels would increase the susceptibility to large, high-severity fires that could degrade those aforementioned values.

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Appendix A –Status of Trails in the Project Area

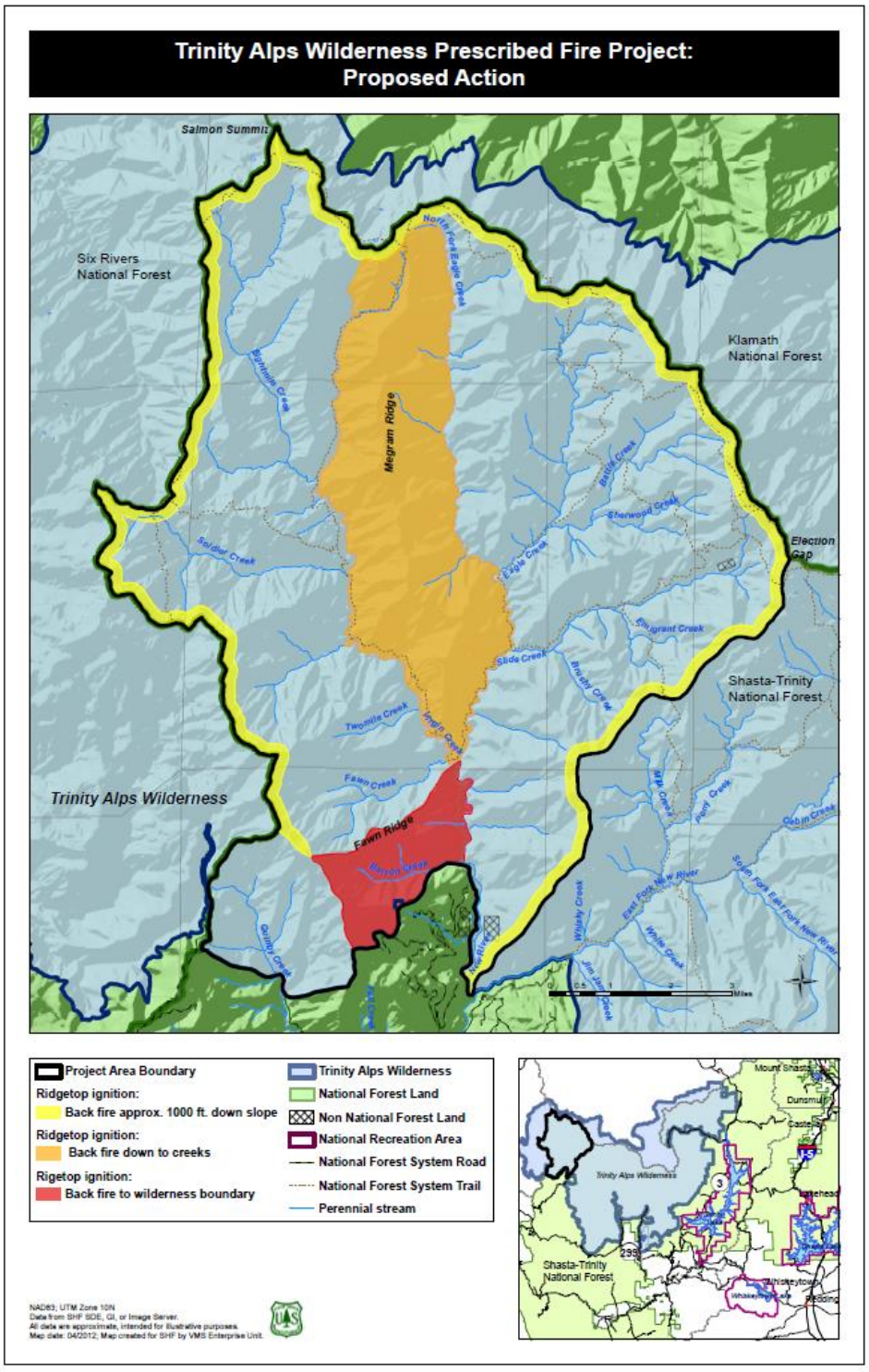
Note: The following data are derived mainly from the SHF GIS_Library (2007) and the Trinity Alps Wilderness Trails Condition Report (USDA Forest Service 2014) and the GORP website (http://trails.gorp.com/).

Trail Name	Total Length (Miles)	Length within Project Area (Miles)	Location and Connecting Trails	Current Condition
Battle Creek Trail (8E19)	8.2	7.7	Originates at the Slide Creek trail. This is the main through trail connecting the Slide Creek, Battle Creek, Eagle Creek and Salmon Summit trails.	In 2018 the trail was unmaintained and difficult to follow. There are many down trees in various sections of the trail.
Cinnabar Trail (12W06)	2.0	1.9	This is a connector trail between Slide Creek Trail and Salmon Summit Trail.	This trail incurred a large landslide in 2009 and is currently not suitable for livestock or pack animal use. Additionally, due to lack of funding, it has not been brushed or cleared of logs for years.
Eagle Creek Trail (8E11)	4.9	4.0	This trail connects with the Slide Creek and Salmon Summit trails.	As of 2018 the lower end of the trail is easy to find but soon becomes dificult to follow and has had no maintanence for years.
Emigrant Creek Trail (8E05)	2.4	2.3	This trail connects with the Emigrant Lake Milk Camp Trail (8E16) and the Slide Creek Trail (12W03).	As of 2018, this trail hasn't had any maintanence for years.
Lipps Camp Trail (6E01)	2.4	2.3	This route connects the Soldier Creek and the Salmon Summit trails.	Due to lack of funding, the trail has not been cleared of brushed or logs since the 2006 fire. There are at least 40 trees down on the trail, and several lengthy sections of the trail were obliterated in the fires of 2008.
New River Trail (7E05)	2.9	2.8	This trail follows the New River northward for about 3.0 miles to a junction with Virgin Creek trail. It also loops into Soldier Creek, Emigrant Creek and Eagle Creek trails.	As of 2018 this trail is clear to the confluence with Virgin and Slide creeks, but has many logs after that point.

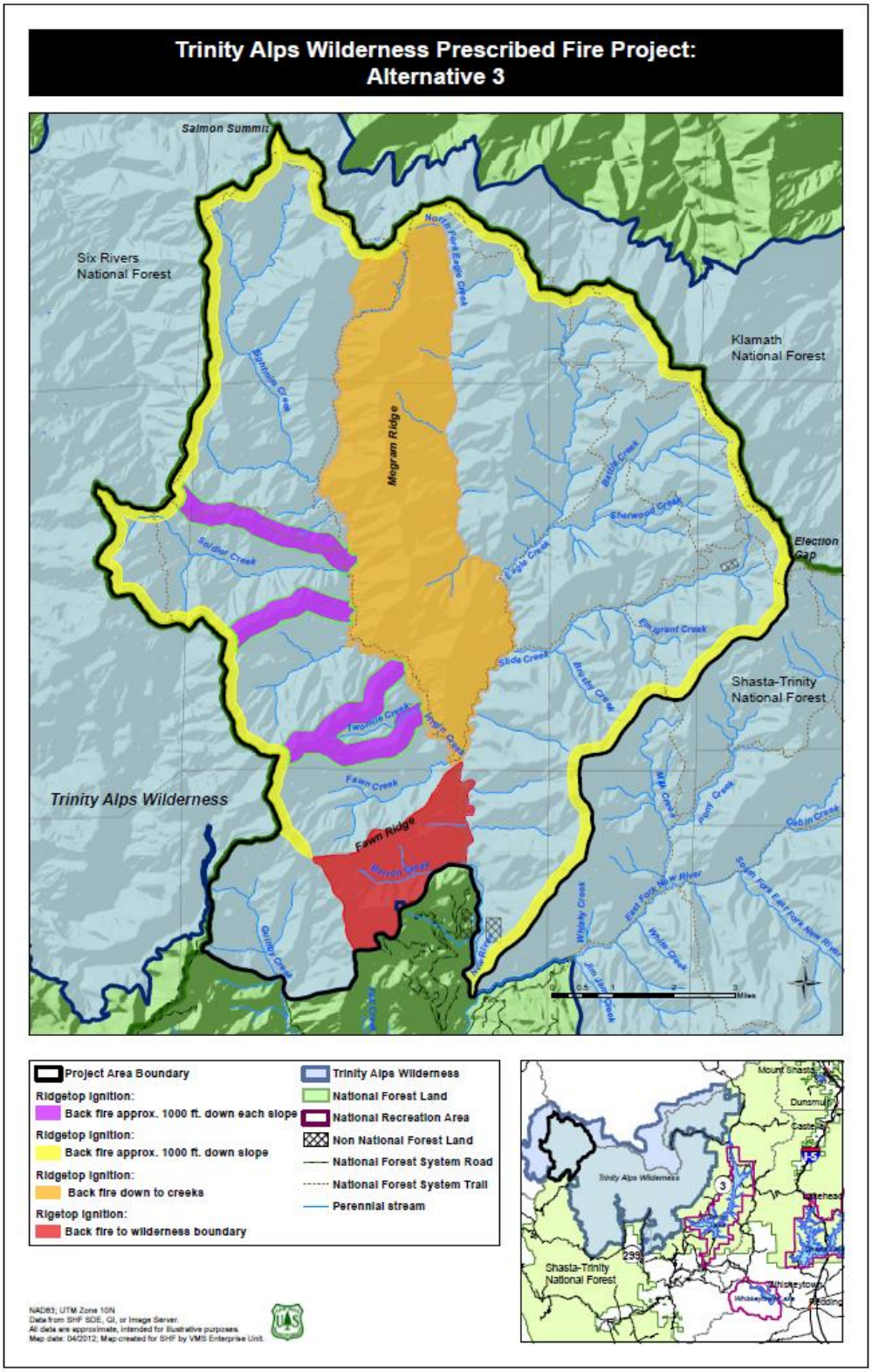
Trail Name	Total Length (Miles)	Length within Project Area (Miles)	Location and Connecting Trails	Current Condition
*Salmon Summit Trail (12W02)	29.1	23.6	This trail extends along the crest of the Salmon Mountains, encompassing the whole of the upper New River drainage. It is the main access route from trailheads on the Klamath NF to the north, and it links many of the trails within the new River Drainage. The Devil's Backbone Trail between Lipps Camp and Red Cap Lake is within this system.	To our knowledge this trail hasn't been cleared since 2006.
Slide Creek Trail (12W03)	10.1	9.7	This trail connects the Battle Creek, Cinnabar, Eagle Creek, Emigrant Creek and Virgin Creek Trails.	The lower 3 miles of this trail have some trees down, and conditions past Old Denny are unknown.
Soldier Creek Trail (7E01)	4.0	4.2	This is a tie in trail between Virgin Creek Trail and the Salmon Summit Trail.	The trail has had no maintanence since 2012
Virgin Creek Trail (7E03)	13.2	12.6	This trail connects the New River Trail and the Salmon Summit trail. It parallels Virgin Creek through mainly forested regions.	In 2017 this trail was cleared from the confluence with New River to the crossing of Virgin Creek.

*Note – 6.6 miles of this trail, occurring on the Six Rivers N.F., is designated as a National Recreation Trail (NRT).

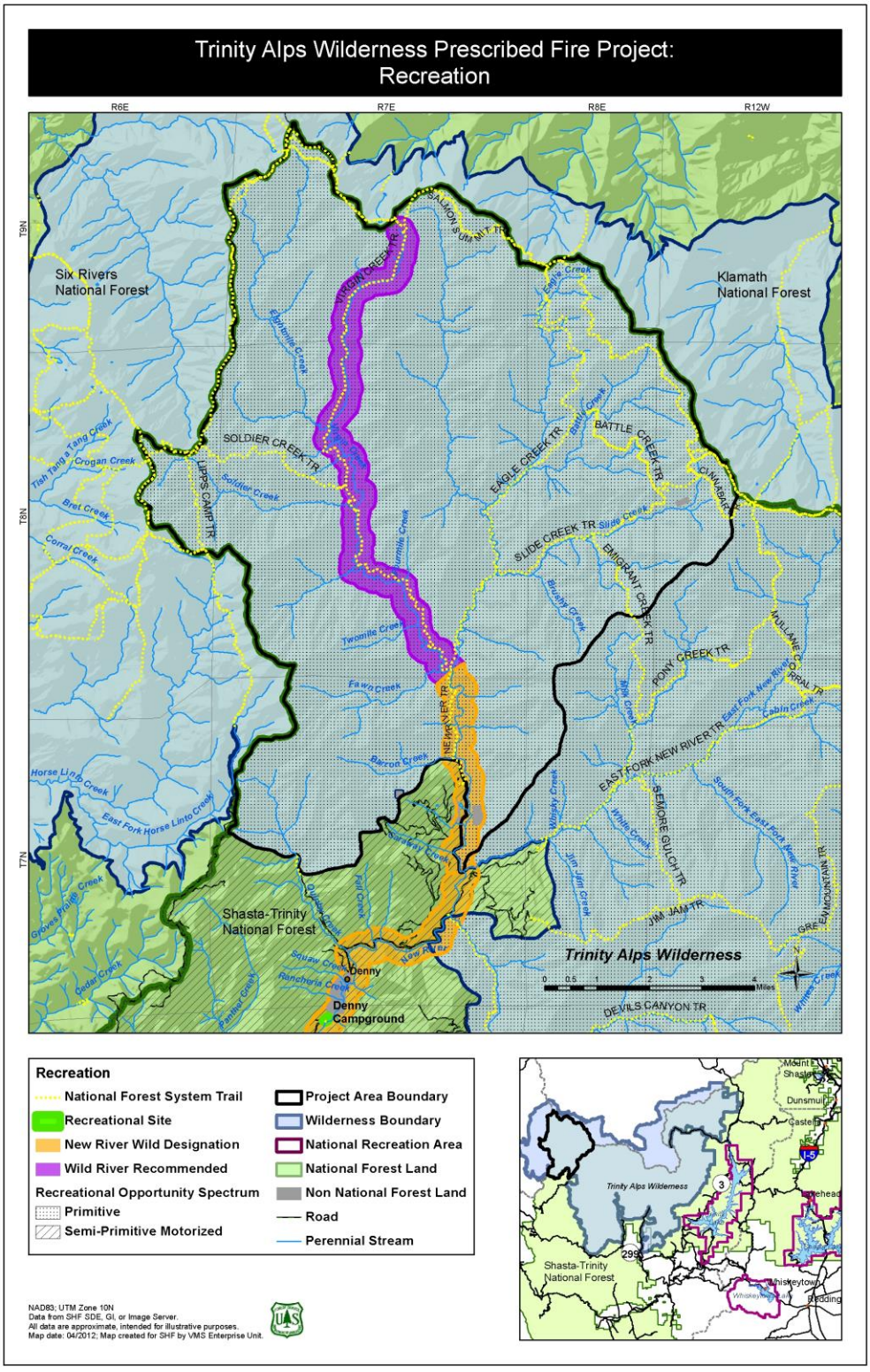
Appendix B – Maps



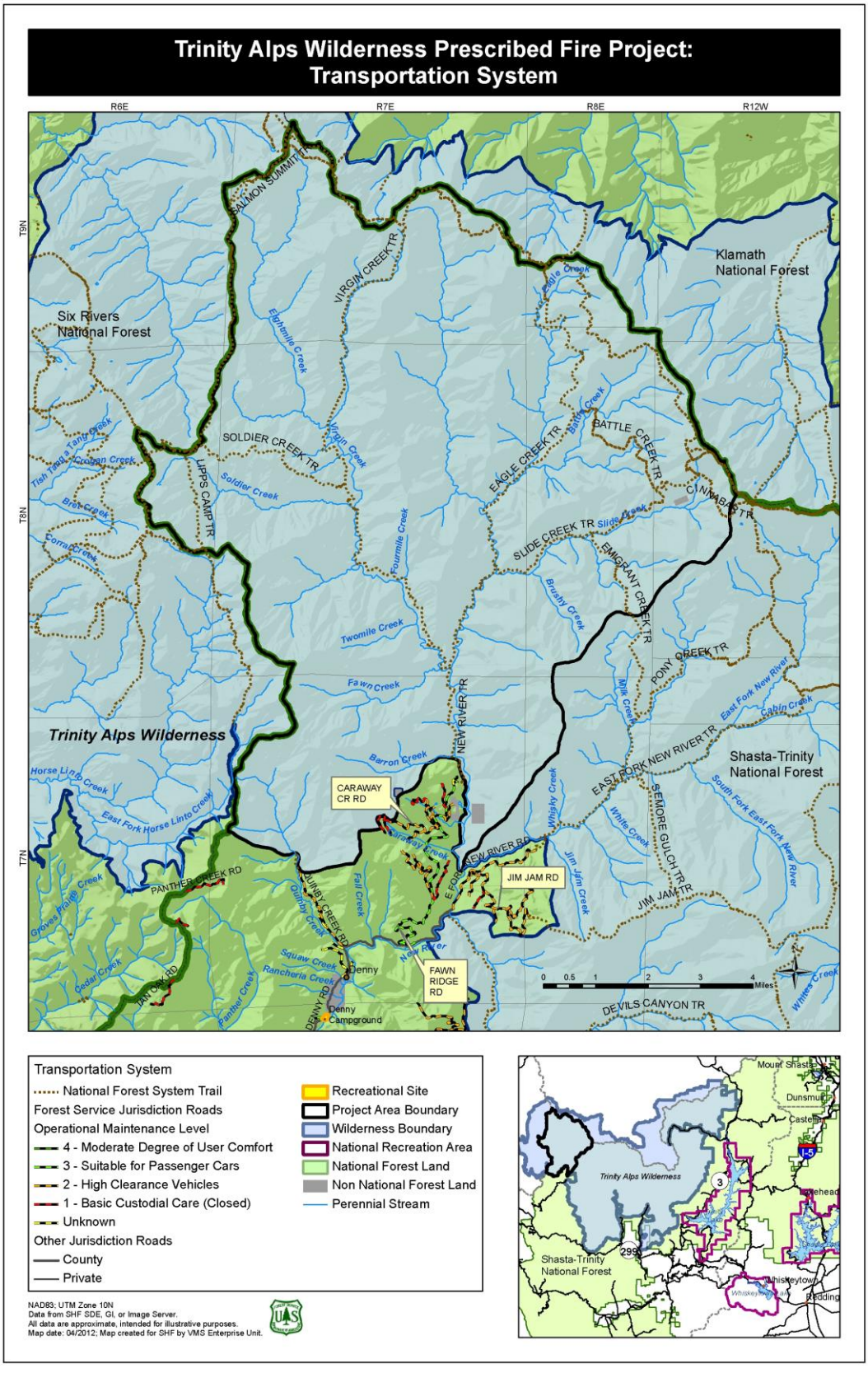
Map B- 1. Alternative 2.



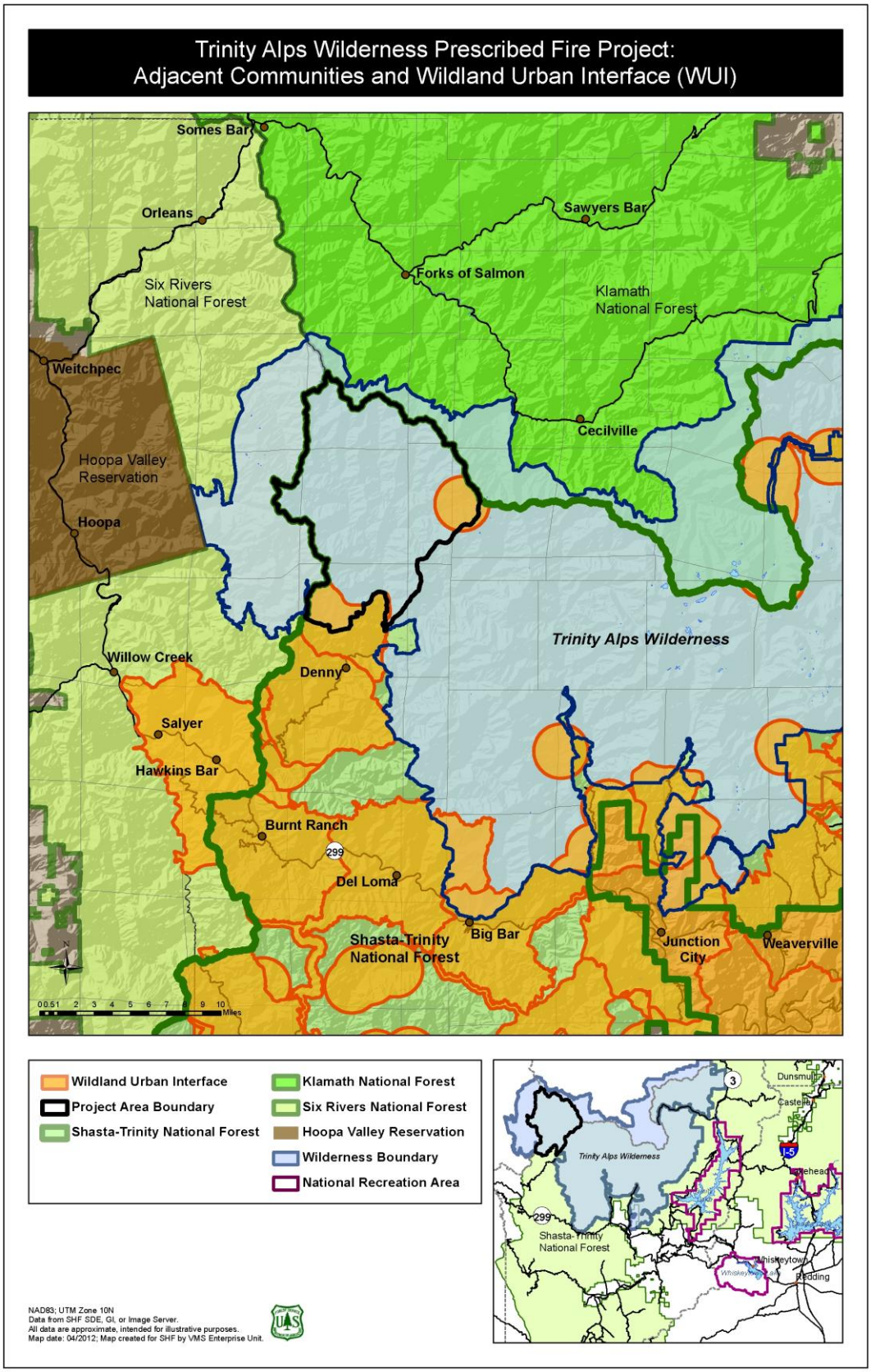
Map B-2. Alternative 3.



Map B-3. Recreation features in the project area.



Map B-4. Transportation system in and adjacent to the project area.



Map B-5. Adjacent communities and Wildland-Urban Interface.